Maryland Historical Trust

Maryland Inventory of Historic Properties number: B-4624

Name: 29TH St. over Conrail, JFX On-Ramp, Falls Rd., MTA Light Rail & Jones Falls

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST

Eligibility Recommended ___X___ Eligibility Not Recommended _____

Criteria: ___A ___B ___C ___D Considerations: ___A ___B ___C ___D ___E ___F ___G __None

Comments: _____

_____

_____

Reviewer, OPS: Anne E. Bruder Date: 3 April 2001

Reviewer, NR Program: Peter E. Kurtze Date: 3 April 2001

MARYLAND INVENTORY OF HISTORIC BRIDGES **MHT No.** B-4624
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

SHA Bridge No. BC 3206
Bridge name 29th Street over Conrail, JFX On-ramp, Falls Road, MTA Light Rail and Jones Falls

LOCATION:
Street/Road name and number [facility carried] 29th Street

City/town Baltimore **Vicinity** _____

County Baltimore

This bridge projects over: Road X **Railway** X **Water** X **Land** ____

Ownership: State _____ **County** _____ **Municipal** X **Other** _____

HISTORIC STATUS:
Is the bridge located within a designated historic district? Yes _____ **No** X
National Register-listed district ____ **National Register-determined-eligible district** __
Locally-designated district _____ **Other** _____

Name of district _____

BRIDGE TYPE:
Timber Bridge _____:
Beam Bridge _____ **Truss -Covered** ___ **Trestle** ___ **Timber-And-Concrete** ___

Stone Arch Bridge _____

Metal Truss Bridge _____

Movable Bridge ____:
Swing _____ **Bascule Single Leaf** __ **Bascule Multiple Leaf** _____
Vertical Lift _____ **Retractile**_____ **Pontoon** _____

Metal Girder_____:
Rolled Girder _____ **Rolled Girder Concrete Encased** _____
Plate Girder _____ **Plate Girder Concrete Encased** _____

Metal Suspension _____

Metal Arch _____

Metal Cantilever _____

Concrete X:
Concrete Arch X **Concrete Slab**____ **Concrete Beam** ___ **Rigid Frame** _____

Other _____ **Type Name** _____

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DESCRIPTION:

Setting: Urban ____X____ **Small town** _____ **Rural** _____

Describe Setting:

Bridge BC 3206 carries 29th Street over Conrail, Jones Falls Expressway (I-83) On-ramp, Falls Road, MTA Light Rail and Jones Falls in Baltimore City. 29th Street runs east-west, while Conrail, MTA Light Rail, Jones Falls Expressway (I-83) On-ramp and Falls Road extend north-south. The Jones Falls flows north to south. The bridge is located in the City of Baltimore.

Describe Superstructure and Substructure:

Bridge BC 3206 is a 8-span, 3-lane, closed spandrel concrete arch bridge. The bridge was originally built in 1937, and rehabilitated in 1988. The structure is 233.5 meters (766 feet) long and has a clear roadway width of 12.2 meters (40 feet); there are sidewalks on the north and south sides of the bridge, each measuring 2.4 meters (7.8 feet) wide. The out-to-out width is 18.6 meters (61 feet). The superstructure consists of eight arches which support a concrete deck and solid concrete parapets. The closed spandrel walls are covered with a stone veneer. Arches #1, #2, #3, #6, #7, #8 each span 9.1 meters (30 feet), while spans #4 and #5 each have a span length of 70.7 meters (232 feet). The main spans, spans #4 and #5, consist of a stringer and floorbeam deck system. The bridge has a steel girder span at both approaches. The bridge has a clear height of 9.1 meters (30 feet) over Falls Road, 10.4 meters (34 feet) over Conrail and the MTA Light Rail, and 18.3 meters (60 feet) over the Jones Falls. The substructure consists of two concrete abutments and seven piers. The bridge has a sufficiency rating of 80.2.

According to the 1995 inspection report, this structure was in satisfactory condition with minor cracking and spalling. The deck, sidewalks and parapets are in generally good condition with slight cracking. The asphalt wearing surface has minor uneven settlement. The superstructure has small isolated spalls and cracking on the exterior panels, spans and arch ribs. The piers have wide cracks and minor efflorescence.

Discuss Major Alterations:

According to the 1995 Bridge Inspection Report, the bridge was rehabilitated in 1988. The bridge has also had minor concrete repairs.

HISTORY:

WHEN was the bridge built: 1937
This date is: Actual _____X_____ **Estimated** _____
Source of date: Plaque ___X___ **Design plans** ___ **City/County bridge files/inspection form** _X_
Other (specify): _____

WHY was the bridge built?

The bridge was constructed in response to the need for more efficient transportation network and increased load capacity.

WHO was the designer?

J.E. Greiner Company

WHO was the builder?

Potts and Callahan Construction Company, Inc.

WHY was the bridge altered?

The bridge was altered to ensure its structural integrity and to correct functional or structural deficiencies.

Was this bridge built as part of an organized bridge-building campaign?

Unknown

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:
A - Events ___X___ **B- Person** _____
C- Engineering/architectural character ___X___

The bridge is eligible for the National Register of Historic Places under Criteria A and C, as a significant example of concrete arch construction. The bridge was constructed under the Federal Emergency Administration of Public Works. The structure has a high degree of integrity and retains such character-defining elements of the type as stone-faced spandrel walls, concrete parapets, arch rings, abutments, and piers.

Was the bridge constructed in response to significant events in Maryland or local history?

The advent of modern concrete technology fostered a renaissance of arch bridge construction in the United States. Reinforced concrete allowed the arch bridge to be constructed with much more ease than ever before and maintained the load-bearing capabilities of the form. As the structural advantages of reinforced concrete became apparent, the heavy, filled barrel of the arch was lightened into ribs. Spandrel walls were opened, to give a lighter appearance and to decrease dead load. This enabled the concrete arch to become flatter and multi-centered, with longer spans possible. Designers were no longer limited to the semicircular or segmental arch form of the stone arch bridge. The versatility of reinforced concrete permitted development of a variety of economical bridges for use on roads crossing small streams and rivers.

Maryland's roads and bridge improvement programs mirrored economic cycles. The first road improvement of the State Roads Commission was a 7 year program, starting with the Commission's establishment in 1908 and ending in 1915. Due to World War I, the period from 1916-1920 was one of relative inactivity; only roads of first priority were built. Truck traffic resulting from war related factories and military installations generated new, heavy traffic unanticipated by the builders of the early road system. From 1920-1929, numerous highway improvements occurred in response to the increase in Maryland motor vehicles from 103,000 in 1920 to 320,000 in 1929, with emphasis on the secondary system of feeder roads which moved traffic from the primary roads built before World

War I. After World War I, Maryland's bridge system also was appraised as too narrow and structurally inadequate for the increasing traffic , with plans for an expanded bridge program to be handled by the Bridge Division, set up in 1920. In 1920 under Chapter 508 of the Acts of 1920 the State issued a bond of $3,000,000.00 for road construction; the primary purpose of these monies was to meet the state obligations involving the construction of rural post roads. The secondary purpose of these monies was to fund (with an equal sum from the counties) the building of lateral roads. The number of hard surfaced roads on the state system grew from 2000 in 1920 to 3200 in 1930. By 1930, Maryland's primary system had been inadequate to the huge freight trucks and volume of passenger cars in use, with major improvements occurring in the late 1930's.

As the nation's automotive traffic increased in the early twentieth century, local road networks were consolidated, and state highway departments were formed to supervise the construction and improvement of state roads. With a diverse topographical domain encompassing numerous small and large crossings, Maryland engineers quickly recognized the need for expedient design and construction through the standardization of bridge designs.

The concept and practice of standardization was one of the most important developments in engineering of the twentieth century. In Maryland, as in the rest of the nation, the standardized concrete types became the predominant bridge types built. In the period 1911 to 1920 (the decade in which standardized plans were introduced), beams and slabs constituted 65 percent and arches 35 percent of the extant 29 bridges built in Maryland during this period. In the following decade, 1921-1930, the beam (now the T-beam) and slab increased to 73 percent and the arch had declined to 27 percent of the 129 extant bridges; in the next decade (1931-1940), the beam and slab achieved 82 percent and arches had further declined, constituting only 18 percent of the total of extant bridges built on state-owned roads between 1931 and 1946.

Although beam and slab bridges became the utilitarian choice, it appears that the arch was selected when aesthetic as well as other site conditions were considered. The architectural treatment of extant arch bridges supports this assessment. Many of these bridges were multiple span structures with open spandrels or masonry facing. Another decorative feature of the concrete arch bridge was an open, balustrade-style parapet. Despite the popularity of ornamental arches and the increase in use of beam and slab bridges, examples of simpler, single and multiple span closed concrete arch bridges with solid parapets continued to be constructed throughout the early twentieth century.

The 29th Street Bridge was constructed in 1936 and 1937 over the Jones Falls Valley and the tracks of the Pennsylvania Railroad Company. The bridge was designed by the J. E. Greiner Company, Consulting Engineers, and constructed by the Potts and Callahan Contracting Company under contracts awarded by the Baltimore City Department of Public Works. Although the plans for the bridge were actually approved in 1930, a shortage of funds caused the project to be suspended. Five years later, the bridge was included under Item No. 19 in the city's P.W.A. Program under the 1935 Act of Congress. Costs of the bridge were divided evenly between the City and the Pennsylvania Railroad, while costs of the approaches were paid entirely by the city. The 29th Street Bridge originally connected Sisson Street, east of the Jones Falls Valley, with lower Lake Drive around Druid Lake in Druid Hill Park, west of the Jones Falls Valley. A public ceremony sponsored by The Mount Royal Protective Association was held on December 4, 1937 to open the bridge to traffic.

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When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?

There is no evidence that the construction of this bridge had a significant impact on the growth and development of this area.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from the historic/visual character of the potential district?

The bridge is located in an area which does not appear to be eligible for historic designation.

Is the bridge a significant example of its type?

The bridge is a potentially significant example of a concrete arch bridge, possessing a high degree of integrity.

Does the bridge retain integrity of important elements described in Context Addendum?

The bridge retains the character-defining elements of its type, as defined by the Statewide Historic Bridge Context, including stone-faced spandrel walls, concrete parapets, arch ring, abutments, and piers, however some deterioration is evident.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?

This bridge is a significant example of the work of the J.E. Greiner Company and the Potts and Callahan Construction Company.

Should the bridge be given further study before an evaluation of its significance is made?

No further study of this bridge is required to evaluate its significance.

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Other (list): _____

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1936 Annual Report . . . . .

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1937 Annual Report . . . . .

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P.A.C. Spero & Company and Louis Berger & Associates
1995 Historic Highway Bridges in Maryland: 1631-1960: Historic Context Report. Maryland State Highway Administration, Maryland State Department of Transportation, Baltimore, Maryland.

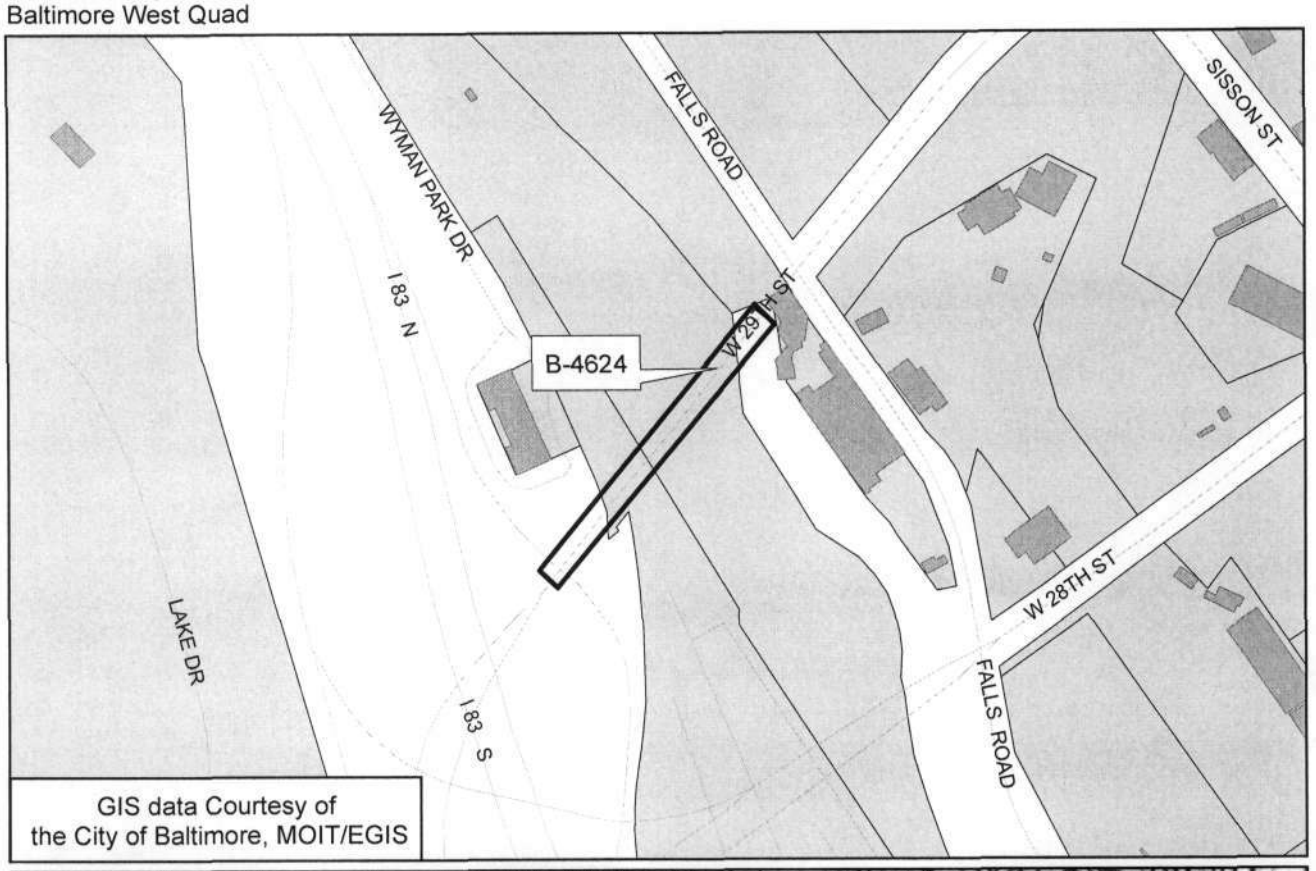
Tyrrell, H. Grattan
1909 *Concrete Bridges and Culverts for Both Railroads and Highways*. The Myron C. Clark Publishing Company, Chicago and New York.

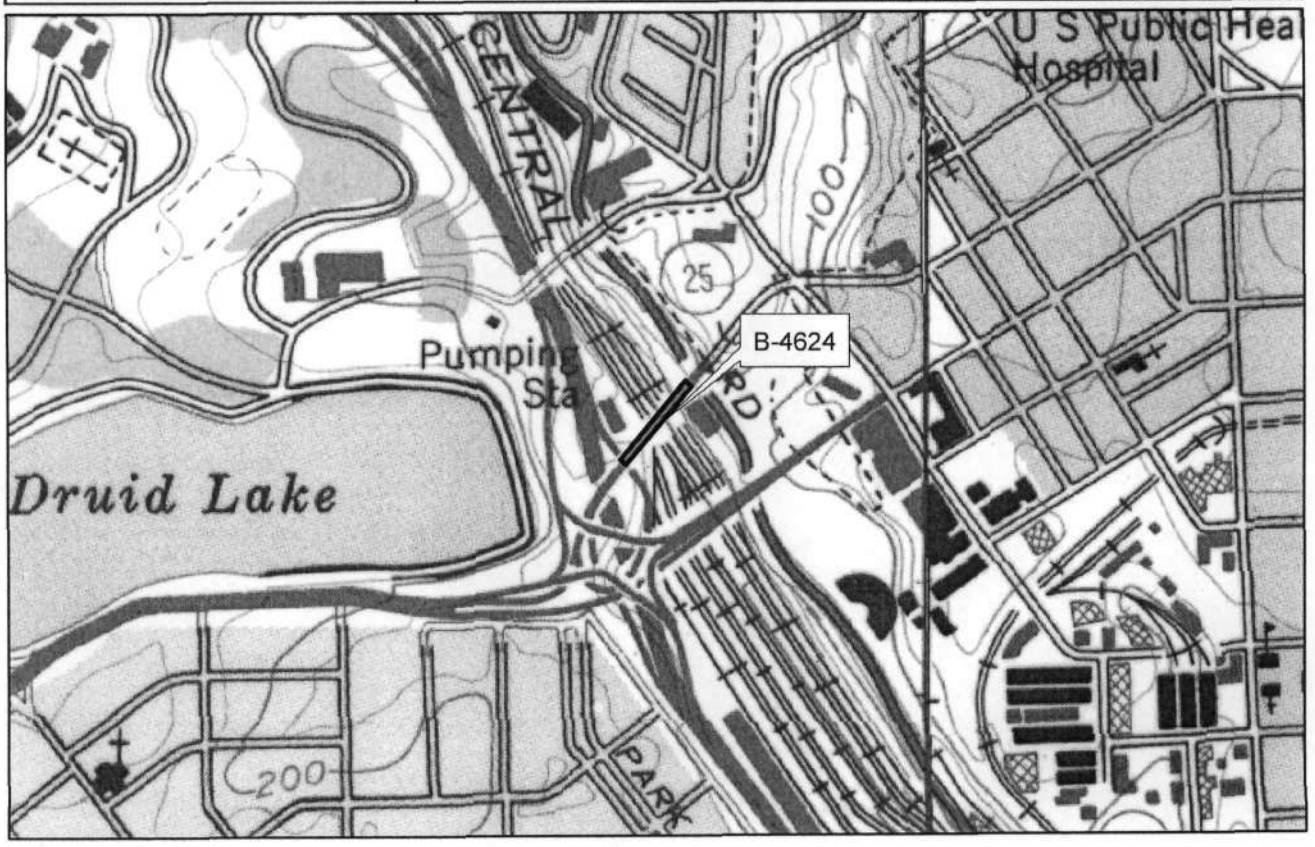
SURVEYOR:

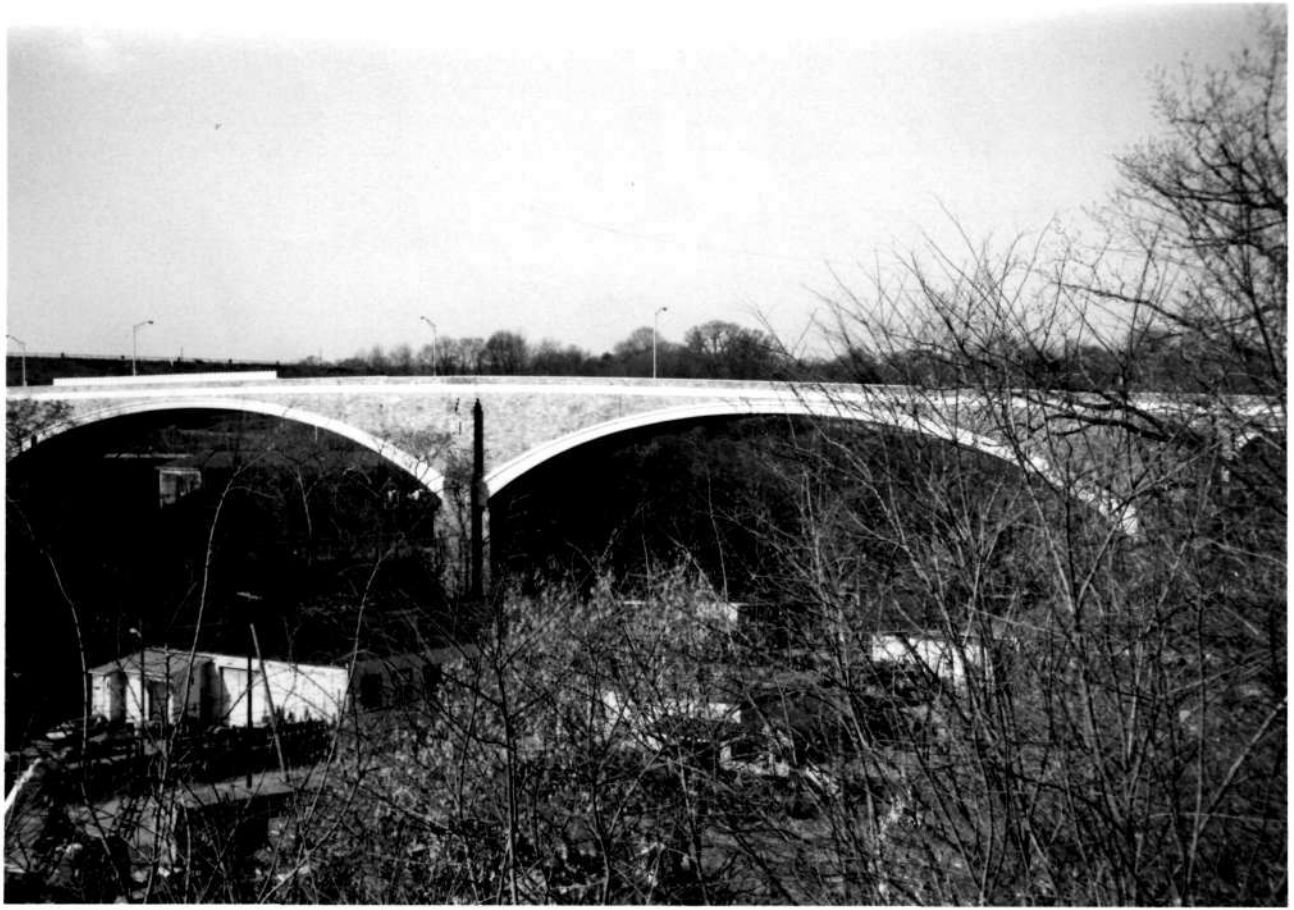
Date bridge recorded December 1997
Name of surveyor Wallace, Montgomery & Associates / P.A.C. Spero & Company
Organization/Address P.A.C. Spero & Co., 40 W. Chesapeake Avenue, Baltimore, MD 21204
Phone number (410) 296-1635 **FAX number** (410) 296-1670

Maryland Historic Highway Bridges
Bridge Type CONCRETE ARCH
MHT# B-4624
Map D-12 BALTIMORE SW
County BALTIMORE CITY
Bridge # and name BC3206; 29TH ST. OVER I-83, JONES FALLS

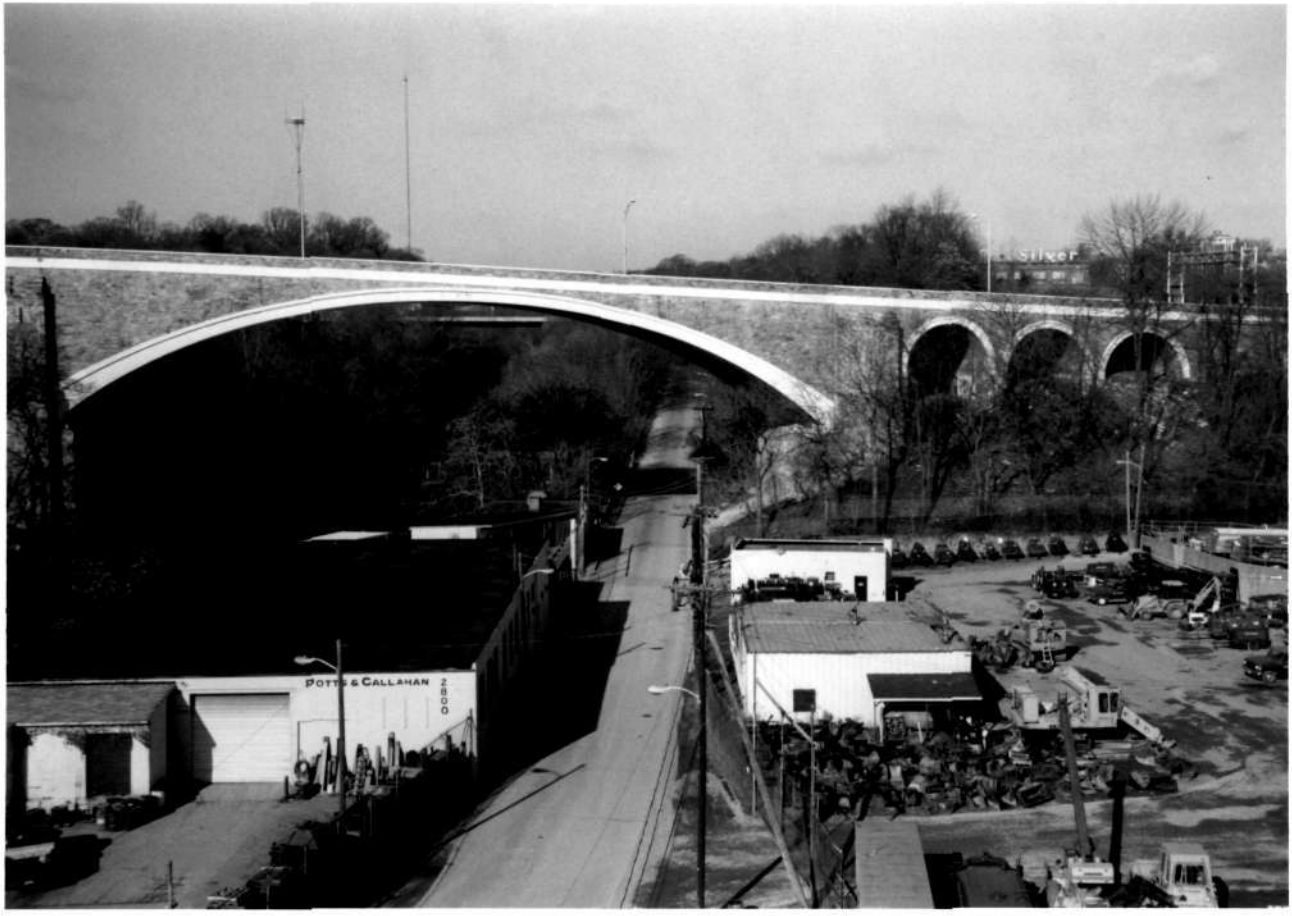
B-4624
Bridge BC 3206
29th Street over Conrail, JFX on-ramp, Falls Road, MTA Lightrail & Jones Falls
Baltimore City
Baltimore West Quad



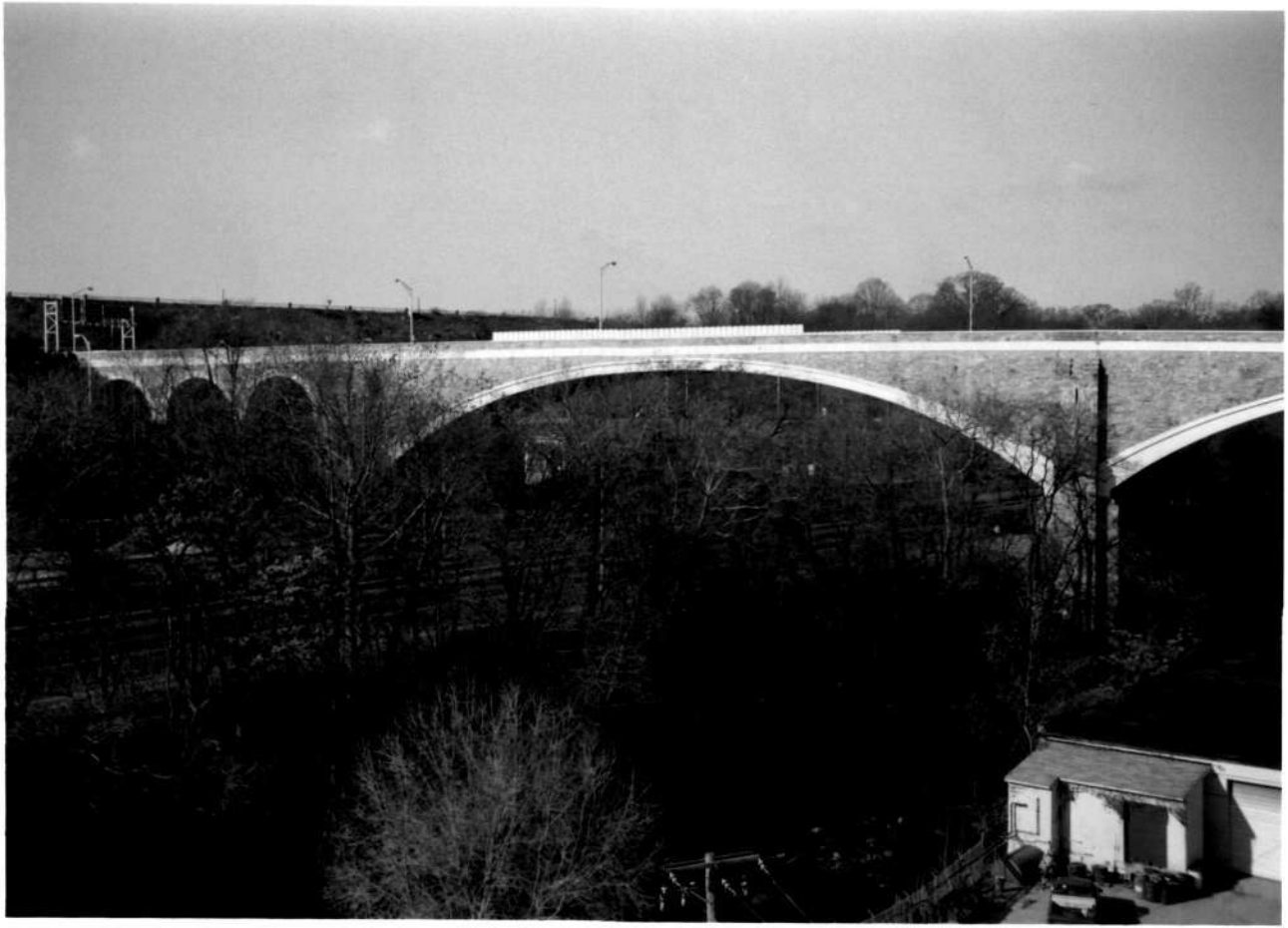




1. B-4624
2. 29th Street Bridge/South elevation, BC 3206
3. Baltimore City, MD
4. Tim Tamburrino
5. 12/97
6. MD SHPO
7. View North
8. 1 of 7


POTTS & CALLAHAN
2800

1. B-4624
2. 29th Street Bridge / Southelev., east spans, BC 320
3. Baltimore City, MD
4. Tim Tamburrino
5. 12/97
6. MD SHPO
7. View North
8. 2 of 7



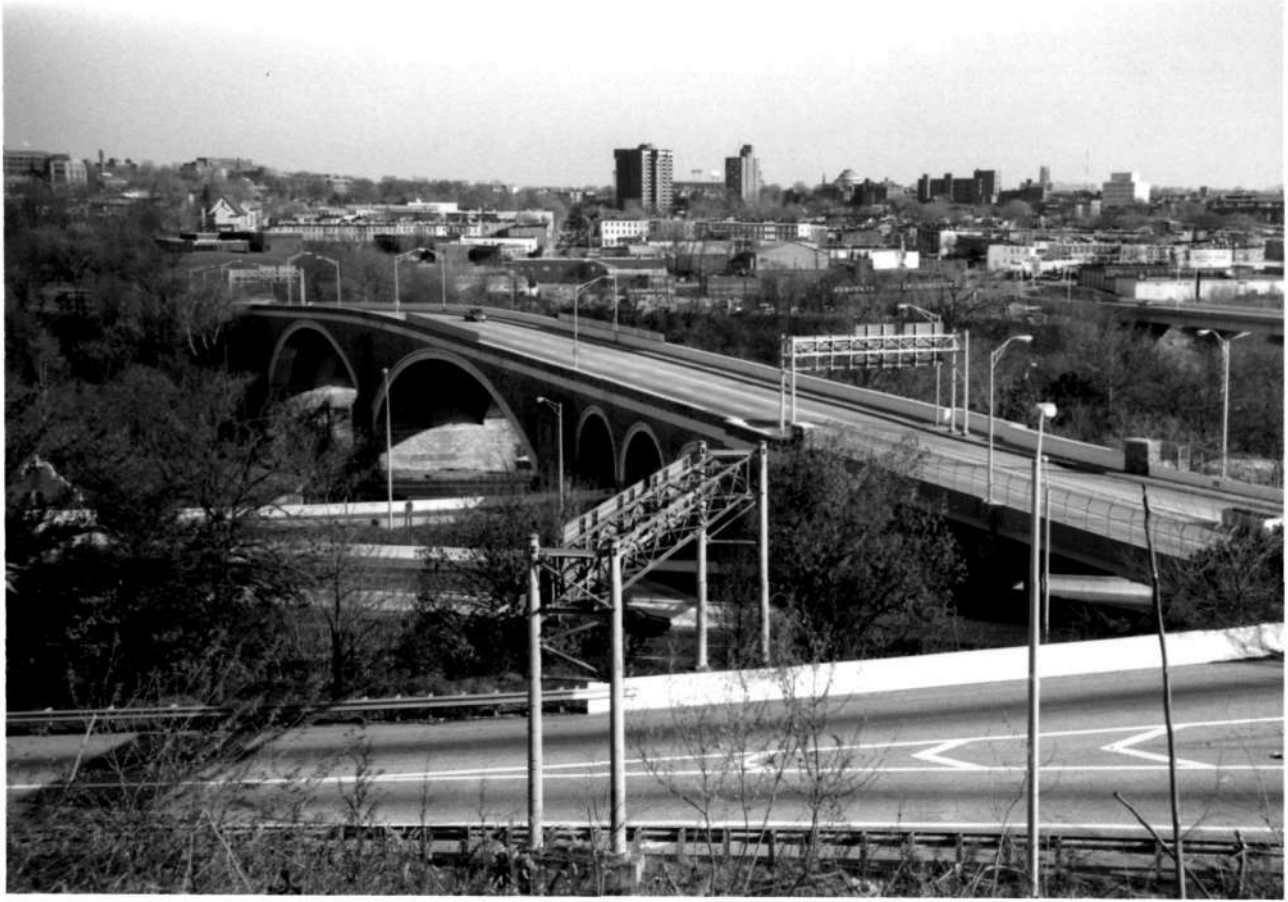
1. B-4624
2. 29th Street Bridge/South elev., west spans, BC 3206
3. Baltimore City, MD
4. Tim Tamburrino
5. 12/97
6. MD SHPO
7. View North
8. 3 of 7

1. B-4624
2. 29th Street Bridge/east approach, BC 3906
3. Baltimore City, MD
4. Tim Tamburrino
5. 12/97
6. MD SHPO
7. View West
8. 4 of 7


TWENTY-NINTH STREET BRIDGE
FEDERAL EMERGENCY ADMINISTRATION
OF
PUBLIC WORKS
PROJECT NO MD. 1008-R-19
CITY OF BALTIMORE
DEPARTMENT OF PUBLIC WORKS
BUREAU OF HIGHWAYS
TWENTY-NINTH STREET BRIDGE
HOWARD T. JACKSON
GEORGE COBB
HERMAN F. LUCKE, JR.
POTTS & CALLAHAN CONTR. CO. INC.
1937

1. B-4624
2. 29th Street Bridge/date plaques at NE corner, BC-3206
3. Baltimore City, MD
4. Tim Tamburrino
5. 12/97
6. MD SHPO
7. View North
8. 5 of 7

1. B-4624
2. 29th Street Bridge/north elevation, BC 3206
3. Baltimore City, MD
4. Tim Tamburrino
5. 12/97
6. MD SHPO
7. View Southeast
8. 6 of 7



1. B-4624
2. 29th Street Bridge/north elevation, 3C-32Dp
3. Baltimore City, MD
4. Tim Tamburrino
5. 12/97
6. MD SHPO
7. View Southeast
8. 7 of 7